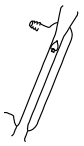

# Advanced Organic Laboratory

5. The students will learn to present scientific data clearly and effectively through both written and verbal communication.

**Grading**: Lab report write-ups (85%); Work approach (5%); Other assignments (10%)
The majority of your grade (

Other assignments (10%):
The following assignments will be worth a combined total of 10% of your final grade. Detailed instructions will be given at a later date:

1) *Chemical database searching*: Reaxsis

# Schedule of Experiments

Sept. 8: Check in and NMR training

Sept. 10: NMR training

Sept. 15: Reaction of methyl 4-formylbenzoate with $NaBH_4$ / GC/MS training

Sept. 17: Hetero-Diels-Alder Set up

Sept. 22: Work up Hetero-Diels-Alder reaction

Sept. 24: Set up diaza Claisen rearrangement

Sept. 29: Work up diaza Claisen rearrangement and optimize chromatography eluent by TLC (**NMR spectrum interpretation exercise due**)

Oct 1: Purification of diaza Claisen rearrangement product by chromatography

Oct. 6: Synthesis of (4-nitrophenylethynyl)trimethylsilane *via* Pd catalyzed Sonogashira coupling

Oct. 8: Purification of (4-nitrophenylethynyl)trimethylsilane via chromatography **(Chemical database**

# Lab Report Due Dates and NMR / GCMS Responsibilities:

*Lab Report 1:*

Reaction of methyl 4-formylbenzoate with $NaBH_4$ / GC/MS training

**Everyone gets her or his own NMR and GCMS by 9/22; Final lab report due 9/24 including full spectroscopic data write up in experimental section**

*Lab Report 2:*

Hetero-Diels-Alder Setup and Work up Hetero-Diels-Alder reaction

**Group A: NMR by 9/20; Group B: GCMS by 9/29; Final lab report due 10/1 including full spectroscopic data write up in experimental section**

*Lab Report 3:*

Set up diaza Claisen rearrangement and work up diaza Claisen rearrangement and optimize chromatography eluent by TLC and Purification of diaza Claisen rearrangement product by chromatography

**Group A: GCMS by 10/8; Group B: NMR by 10/8; Final lab report due 10/10**

*Lab Report 8:*